

REMARKS

The claims are claims 1, 4, 5, 9 to 11, 13 and 16 to 24.

Claims 1, 4, 9, 13, 16 and 17 are amended. Claims 2, 3, 6 to 8, 12, 14 and 15 are canceled. New claims 18 to 24 are added. Claim 1 is amended to include limitations of canceled claim 3. Claim 4 is amended to depend on claim 1 rather than canceled claim 3. Claims 9, 16 and 17 are amended for clarity. Claim 13 is amended to include limitations of canceled claim 14. Claims 16 and 17 are also amended in response to the rejection under 35 U.S.C. 112. New claim 18 recites subject matter of claims 1 and 9. New claims 19 to 24 correspond to respective claims 3, 4, 6, 16, 10 and 11 except dependent upon claim 19.

Claims 16 and 17 are proper under 35 U.S.C. 112 and do not add introduce new subject matter not previously disclosed under 35 U.S.C. 132. These claims find support in the original application at page 18, lines 22 to 26 which state:

"In step 340, the intermediate result is right shifted by sixteen bits and sign extended to form a 32-bit final result. Thus, the shifting truncates a selected number of least significant bits of the intermediate result such that the final result is shorter than the combined product, although it is sign extended to 32-bits for storage in a 32 bit register."

The Applicant respectfully submits this disclosure of the original application supports the recitation of sign extension in claim 16. The application does not explicitly state that shifters 440 or 540 include this sign extension function. However, the above quoted passage of the original application provides sufficient basis for claiming the combined shifter and sign extender of claim 17.

Paragraph 8 of the OFFICE ACTION stated that claims 3 to 5 and 9 would be allowable if rewritten in independent form. Claim 1 now recites all the limitations of claim 1 and is therefore allowable.

Claims 4, 5, 10, 11 and 16 are allowable by dependence upon allowable claim 1. Claim 18 recites all the limitations of claim 9 and its base claims in independent form and is therefore allowable. Claims 19 to 24 are allowable by dependence upon allowable claim 18.

Claim 13 was rejected under 35 U.S.C. 103(a) as made obvious by the combination of Pitsianis et al. Pub. No. US 2003/0088601 A1 and Adelman et al. U.S. Patent No. 5,666,300. The OFFICE ACTION states that claim 13 is rejected for the same reason as claim 1 is rejected.

Claim 13 recites subject matter not made obvious by the combination of Pitsianis et al and Adelman et al. Claim 13 recites "an arithmetic circuit having a plurality of inputs each connected to receive a corresponding one of the plurality of products from the plurality of multipliers and a mid-position carry input for mid-position rounding responsive to the rounding dot product instruction." This recitation of the mid-position carry input for rounding represents subject matter neither taught in nor made obvious by the references. Note that the rejection of claim 1 fails to mention any such arithmetic circuit with a mid-position carry input. Accordingly, the OFFICE ACTION fails to point out where the references make obvious this subject matter. In addition, this subject matter is similar in scope to that recited in claim 3 which was ruled allowable in paragraph 8 of the OFFICE ACTION. Accordingly, claim 13 is allowable.

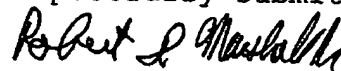
Paragraph 9 of page 5 of the OFFICE ACTION stated that claim 17 would be allowable if the rejection under 35 U.S.C. 112 was overcome. Accordingly, claim 17 is allowable.

The Applicants respectfully submit that all the present claims are allowable for the reasons set forth above. Therefore early reconsideration and advance to issue are respectfully requested.

If the Examiner has any questions or other correspondence regarding this application, Applicants request that the Examiner contact Applicants' attorney at the below listed telephone number and address to facilitate prosecution.

Texas Instruments Incorporated
P.O. Box 655474 M/S 3999
Dallas, Texas 75265
(972) 917-5290
Fax: (972) 917-4418

Respectfully submitted,



Robert D. Marshall, Jr.
Reg. No. 28,527